

***Amendment to the Claims***

The listing of claims will replace all prior versions, and listings of claims in the Application.

1. (*Previously presented*) A system for processing image data representing biometric data, the system comprising:

a receiving module for receiving image data captured in a first, polar coordinate system; and

a coordinate conversion module coupled to the receiving module for converting the image data captured in the first, polar coordinate system to converted image data in a second coordinate system.

2. (*Original*) The system of claim 1 further comprising a memory coupled to the coordinate conversion module.

3. (*Currently amended*) The system of claim 1, wherein the second coordinate system is a rectangular coordinate system.

4. (*Canceled*)

5. (*Currently amended*) The system of claim 1 further comprising a scanning and capturing system coupled to the receiving module wherein the scanning and capturing system comprises:

a substantially conical prism for receiving biometric data at an exterior, convex surface; and

a scanning imaging system optically coupled to the substantially conical prism for capturing image data in a first, polar coordinate system and for communicating the image data to the receiving module.

6. (*Previously presented*) The system of claim 5 wherein the scanning and capturing system is coupled to the receiving module via a data network.

7. (*Original*) The system of claim 5 wherein the second coordinate system is a rectangular coordinate system.

8. (*Canceled*)

9.       *(Currently amended)* A system for processing image data representing biometric data, comprising:

    a substantially conical prism for receiving biometric data at an exterior, convex surface;

    a scanning imaging system optically coupled to the substantially conical prism for capturing the image data in a first coordinate system; and

    an image conversion system coupled to the scanning imaging system for converting the image data captured in the first coordinate system to converted image data in a second coordinate system.

10.      *(Previously presented)* The system of claim 9 wherein the image conversion system includes:

    a receiving module for receiving image data captured in a first, polar coordinate system; and

    a coordinate conversion module coupled to the receiving module for converting the image data captured in the first, polar coordinate system to converted image data in a second coordinate system.

11.      *(Original)* The system of claim 10 wherein the image conversion system further comprises a memory coupled to the coordinate conversion module.

12. (*Original*) The system of claim 11 wherein the second coordinate system is a rectangular coordinate system.

13. (*Canceled*)

14. (*Currently amended*) The system of claim 9~~11~~ wherein the substantially conical prism is a conical prism.

15. (*Currently amended*) A system for processing image data representing biometric data, comprising:

a biometric imaging system comprising:  
a substantially conical prism for receiving biometric data at an exterior, convex surface, a ~~an~~-scanning imaging system optically coupled to the substantially conical prism for capturing the image data in a first coordinate system, and a first image conversion system coupled to the scanning imaging system for generating and storing conversion data; and

a second image conversion system coupled to the biometric imaging system for converting the image data captured in the first coordinate system to converted image data in a second coordinate system.

16. (*Original*) The system of claim 15 wherein the first image conversion system includes:

a receiving module for receiving image data captured in a first coordinate system;  
and

a coordinate conversion module coupled to the receiving module for converting  
the image data captured in the first coordinate system to converted image data in a  
second coordinate system.

17. (*Original*) The system of claim 16 wherein the second image conversion system includes:

a receiving module for receiving image data captured in a first coordinate system;  
and

a coordinate conversion module coupled to the receiving module for converting  
the image data captured in the first coordinate system to converted image data in a  
second coordinate system.

18. (*Original*) The system of claim 15 wherein the second coordinate system is a rectangular coordinate system.

19. (*Original*) The system of claim 18 wherein the first coordinate system is a polar coordinate system.

20. (*Previously presented*) A system for processing image data representing biometric data, wherein the system comprises:

a conversion module configured to convert image data captured in a first, polar coordinate system to converted image data in a second coordinate system.

21. (*Original*) The system of claim 20 wherein the second coordinate system is a rectangular coordinate system.

22. (*Canceled*)

23. (*Previously presented*) A method for processing image data representing biometric data comprising:

receiving the image data captured in a first, polar coordinate system and storing the captured image data; and

converting the captured image data in the first, polar coordinate system to converted image data in a second coordinate system.

24. (*Original*) The method of claim 23, wherein the converting comprises using a rectangular coordinate system as the second coordinate system.

25. (*Canceled*)

26. (*Previously presented*) The method of claim 23, wherein the method further comprises generating and storing a conversion data array including coordinate and offset data.

27. (*Original*) The method of claim 23, further comprising:  
prior to receiving captured image data, receiving criteria associated with specifications for processing the captured image data; and  
generating and storing at least conversion data array corresponding to the received criteria.

28. (*Original*) The method of claim 27 further comprising generating and storing at least one conversion parameter corresponding to the received criteria.

29. (*Canceled*)

30. (*Original*) The method of claim 27 wherein each of the at least one conversion data array is generated dynamically.

31. (*Canceled*)

32. (*Previously presented*) A method for processing image data representing biometric data in a system having a scanning and capturing system and an image conversion system, comprising:
- generating and storing conversion data in the image conversion system;
- capturing in the scanning and capturing system the image data in a first, polar coordinate system;
- communicating the captured first, polar coordinate system image data to the image conversion system; and
- converting the captured first, polar coordinate system image data to converted image data in a second coordinate system.

33. (*Canceled*)

34. (*Previously presented*) The method of claim 32, wherein the converting comprises using a rectangular coordinate system as the second coordinate system.

35. (*Canceled*)

36. (*Canceled*)

37. (*Canceled*)

38. (*Previously presented*) A method for processing image data representing biometric data, the system comprising:

capturing the image data in a first, polar coordinate system; and  
converting the captured image data in the first, polar coordinate system to converted image data in a second coordinate system.

39. (*Canceled*)

40. (*Original*) The method of claim 38, wherein the converting comprises using a rectangular coordinate system as the second coordinate system.

41. (*Previously presented*) The method of claim 38, further comprising generating and storing conversion data, wherein the conversion data includes polar coordinate and polar offset data.

42. (*Canceled*)

43. (*Previously presented*) A method for processing image data representing biometric data, the method comprising:

receiving the image data captured in a first coordinate system and storing the captured image data; and  
converting the captured image data in the first coordinate system to converted image data in a second coordinate system, wherein the converting comprises:

for each pixel in an output rectangular area, the steps of:  
performing a look up to obtain conversion data including the coordinate data and  
the offset data associated with respective pixel coordinates;  
retrieving at least one sample of stored captured image data; and  
interpolating each retrieved sample with weighting based on the looked up offset  
data to obtain a respective pixel value in the second coordinate system.

44. (*Previously presented*) A method for processing image data representing  
biometric data in a system having a scanning and capturing system and an image  
conversion system, the method comprising:

generating and storing conversion data in the image conversion system;  
capturing in the scanning and capturing system the image data in a first  
coordinate system;  
communicating the captured first coordinate system image data to the image  
conversion system; and  
converting the captured first coordinate system image data to converted image  
data in a second coordinate system, wherein the converting comprises: for each pixel in  
an output rectangular area, the steps of:

performing a look up in a conversion data array to obtain conversion data  
including the coordinate data and the offset data associated with respective pixel  
coordinates;  
retrieving at least one sample of stored captured image data; and

interpolating each retrieved sample with weighting based on the looked up offset data to obtain a respective pixel value in the second coordinate system.

45. (*Previously presented*) The method of claim 44 wherein the step of interpolating each retrieved sample includes calculating the weighting.

46. (*Previously presented*) The method of claim 44 wherein the step of interpolating each retrieved sample includes performing a look up to determine the weighting.

47. (*Previously presented*) A method for processing image data representing biometric data, the method comprising:

capturing the image data in a first coordinate system;  
converting the captured image data in the first coordinate system to converted image data in a second, rectangular coordinate system, wherein the converting comprises:

for each pixel in an output rectangular area, the steps of:  
performing a look up to obtain conversion data including the polar coordinate data and the offset data associated with respective pixel coordinates;  
retrieving at least one sample of stored polar space image data; and  
interpolating each retrieved sample with weighting based on the looked up polar offset data to obtain a respective pixel value in rectangular image space; and

generating and storing conversion data, wherein the conversion data includes polar coordinate and polar offset data.

48. *(New)* A method for processing image data representing biometric data comprising:

receiving the image data captured in a first, polar coordinate system and storing the captured image data;

prior to receiving the captured image data, receiving criteria associated with specifications for processing the captured image data;

generating and storing at least one conversion parameter corresponding to the received criteria; wherein the at least one conversion parameter includes a parameter indicating an interpolation method to be used during conversion;

converting the captured image data in the first, polar coordinate system to converted image data in a second coordinate system; and

generating and storing at least a conversion data array corresponding to the received criteria.